

# **Chapter I**

## **EARLY HISTORY OF ARMY AVIATION**

Army organic aviation augments the capability of the Army to conduct effective combat operations. It is under the full and immediate control of, and subject to the direct orders of, the commander responsible for ground operations. Army aviation as it is known today dates from 1942, although aviation in various forms has been used by the Army for reconnaissance and observation since the Civil War. The capabilities of observation aircraft were developed during World War II and following that war, the helicopter began to play an increasingly important role. It was not until the Korean conflict, however, that Army aviation began to assume its present form. The period from 1950 to 1954 saw the emergence of Army aviation as a separate entity. During this period, the foundation was laid upon which the vast aviation structure of the Vietnam War period was built.

### **Balloons and Dirigibles**

Aerial observation had its beginning in the United States Army on 6 June 1861 when Thaddeus S. C. Lowe brought his balloon to Washington to demonstrate its military potential. On 18 June, Lowe successfully sent a telegraph message from his balloon which in the presence of President Abraham Lincoln and War Department officials, he had maneuvered to an altitude of 500 feet. The War Department then asked Professor Lowe to ascend his balloon near Falls Church, Virginia, to determine the location of Confederate troops menacing the Capital. He began making ascensions on 22 June and eased the tense situation in Washington by reporting no offensive movement following the Confederate victory at Bull Run. He later used the balloon for artillery spotting with some success. The Balloon Corps was added to the Army of the Potomac on 25 September 1861. The corps expanded from four to seven balloons by early 1862 as operations spread out from Old Point Comfort, Virginia, west to the Mississippi River, and south to Mobile. Despite the initial success of the Balloon Corps, it was disbanded in June 1863, following a disagreement over placing it under the jurisdiction of the Signal Corps.<sup>1</sup>

Balloons were not again used by the Army until 1892 at which time the Signal Corps had only one balloon and no trained personnel. A balloon was in Cuba during the Spanish-American War. Its observers provided the Army with valuable information concerning the roads to the front lines

and the location of the Spanish fleet, but the presence of the balloon bobbing above the advancing troops provided an ideal target for the Spanish artillery. The balloon was finally destroyed by enemy fire, much to the relief of the infantry. By 1907, the Signal Corps had increased its number of balloons to ten, but by the beginning of World War I only five free balloons were serviceable.<sup>2</sup>

At the outset of World War I, the training program for the Balloon Corps was stepped up with balloon companies organized and sent to the field artillery centers and schools in Texas, Oklahoma, California, and Virginia. As of 15 April 1918, the Army had only 2 balloon companies in operation, but by the armistice 33 companies and 117 officers had been sent overseas. Of the 265 balloons sent to France, 77 participated in combat, 48 of which were lost in action. During actual fighting, observation balloonists, who ascended as high as 4,500 feet and were able to see about eight miles in all directions, reported locations of enemy batteries, hostile aircraft, demolition behind enemy lines, and movement of enemy supplies and troops.

After the armistice, the Army canceled a number of lighter than air projects, and by the summer of 1920, the authorized balloon strength was cut to twenty-nine companies. The introduction of the fighter plane in World War I made the balloon exceedingly vulnerable, eliminating it as an effective means of aerial observation.<sup>3</sup>

The War Department also had been interested in dirigibles, providing \$25,000 in November 1907 to procure an experimental model for the Signal Corps. A contract for \$6,750 was awarded to Thomas Scott Baldwin, who after successfully completing a series of performance trials, taught three officers to fly the airship, which was designated U.S. Army Dirigible No.1. Although the airship made several demonstration flights around the country, it was not used after 1909 and was condemned and sold in 1912. The Army waited until 1919 to purchase its next airship, and by 1920 it had seven dirigibles. But like the balloon, the airship was supplanted by the airplane.

## **Development of Military Aviation**

The United States became the first country in the world to contract for military aircraft when in December 1907 it called for bids on a military airplane. Of the three bids accepted by the Army, only the Wright brothers delivered. The Army accepted the aircraft on 2 August 1908, after its successful test in July by Orville Wright. By the summer of 1911, the Army had five airplanes. Another milestone was reached in November 1912 when the Army used airplanes for observation and adjustment of field artillery fire. An act of Congress of 18 July 1914 created the Aviation Section within the Signal Corps, thus increasing the strength and scope of Army aviation and giving it definite status.

The First Aero Squadron, the first tactical United States aviation unit, was organized on 5 March 1913. It began practical operations in 1916 in conjunction with the Mexican Punitive Expedition against Pancho Villa. Its achievements were not impressive, as most of the obsolescent aircraft broke down during preliminary reconnaissance missions.

American aerial reconnaissance experience in World War I centered around the First Aero Squadron, which arrived in France in September 1917. After training under French direction, the squadron went into action in the Toul Sector in April 1918 as the first American air unit to fly reconnaissance and observation missions in France. Brig. Gen. William Mitchell, commander of all air units of the American Expeditionary Force, added two other squadrons to the First, thus forming the 1st Corps Observation Group which reconnoitered for the artillery with distinction. By the end of the war, there were fifteen observation squadrons in Europe.<sup>4</sup>

With legislative authority granted by the Overman Act of 20 May 1918, President Woodrow Wilson by executive order removed Army aviation from the jurisdiction of the Signal Corps. Responsibilities for training and operations were vested in a Director of Military Aeronautics and the new organization was soon officially recognized as the Air Service. This designation was changed on 2 July 1926 to the Army Air Corps, but there were no fundamental changes in mission or organization. The tables of organization as of April 1926 called for a squadron of thirteen observation aircraft per division, while each corps headquarters was to have an observation group of two observation squadrons, a service squadron, and a photo squadron. Each Army and the General Headquarters of the Army was to have an observation group.

By 1930, emphasis began to shift to corps and division observation in coordination with ground units along the front lines. During this prewar decade, observation aircraft progressed from a series of small biplanes to the O-47, an all metal, 3-seat monoplane with retractable landing gear, and a 550 horsepower engine.

The Army Air Corps also considered a multi-engined, amphibious aircraft which would be used to observe and adjust coast artillery fire, but the Navy objected to Army encroachment on its mission of protecting the nation's shores. Subsequently, an agreement was reached which set the Army's sphere of operation and observation at 100 miles, thus forcing it out of the long range reconnaissance role.

Because of a change in organization, corps observation groups had doubled in number of aircraft by 1936, with four observation squadrons and a service squadron; however, at division level an officer and a small enlisted staff remained to assist the division commander on air matters. Under a further reorganization at a later date, the division air officers' function became centralized at corps headquarters.

Observation training in the thirties was neglected as pilots avoided this program because they felt that a successful and rewarding career in observation aviation was doubtful. As a result, the program faltered, morale sagged, and many officers transferred to bomber and fighter duty. The lack of funds during the thirties, along with a misunderstanding of the urgency of the requirements, served to delay the development of observation aviation.<sup>5</sup>

## **Establishment of Organic Army Aviation**

After purchasing a Kellett K-2 autogiro for testing in 1930, the Army waited until 1936 to obtain the Kellett YC-1 and Pitcairn YU-2 and start combat tests at Langley Field, Virginia, and Fort Bragg, North Carolina. The Army was particularly interested in the potential use of the

autogiro in tactical observation and command and liaison flights because of its ability to get in and out of small areas. Several serious accidents, weight limitations, failure to install additional observer type equipment, and failure in flight tests caused the cancellation of the autogiro program of development.

The answer to the problem of rotary powered flight seemed to be the helicopter. Encouraged by German success in this field in 1937, Congress appropriated \$2,000,000 for the Army Air Corps to procure a helicopter. The XR-1, developed by Platt La Page Company, emerged in 1941, followed closely by the XR-1A later in the year. The advent of the war delayed any significant developments in rotary aircraft.<sup>6</sup>

After 1939, certain field artillery officers made a concerted effort to obtain efficient aircraft for their branch to be used for artillery observation. Proposals to include light observation planes organically in field artillery units were first advanced as a consequence of experience in the Louisiana Maneuvers of September 1941. In these maneuvers, the observation aircraft provided by the newly created air support commands proved to be inadequate. During the 1941 maneuvers, conducted in Tennessee, Kansas, Louisiana, Texas, and the Carolinas from April through October, 8 Piper Cubs, 4 Aeroncas, and 4 Taylorcraft were tested. The aircraft, their pilots, and mechanics were supplied by the aircraft manufacturers at no cost to the government, except that in the final stages of the Louisiana Maneuvers the Army contracted for the use of the so-called "Grasshopper Squadron" to assure their availability for a period after the date which the manufacturers had decided to withdraw them. According to Maj. Gen. Robert M. Danford, Chief of Field Artillery, the only uniformly satisfactory report of air observation during those Louisiana Maneuvers came from those artillery units which used light commercial planes (Piper Cubs) operated by civilian pilots. General Danford renewed a previous recommendation to the War Department to make light liaison planes, operated by field artillery officer-pilots, organic in the artillery component of each division and in each corps artillery brigade. Division and corps commanders who had participated in the Louisiana Maneuvers were unanimously in favor of this change.

Lt. Gen. Lesley J. McNair, Chief of Staff, General Headquarters, was well aware of the value of tactical air support for the ground forces and the importance of good aerial adjustment of artillery fire, but until the 1941 maneuvers he believed this was a responsibility of the Air Corps. After the maneuvers, General McNair recommended to General George C. Marshall, the Chief of Staff of the Army, that commercial planes be purchased to relieve the shortage of liaison aircraft.

In November 1941, General Marshall agreed that the commercial aircraft were of merit in regard to cost and availability and would relieve the current pressure on the production program of heavier tactical aircraft. As a result of this decision, the Materiel Division, General Headquarters, began negotiating for the purchase of 617 light aircraft. This initial procurement was increased more than tenfold in the next year.<sup>7</sup>

On 10 December 1941, General Marshall directed General Danford to test out his theory of organic aircraft. Two units—the 13th Field Artillery Brigade of the First Army and the 2d

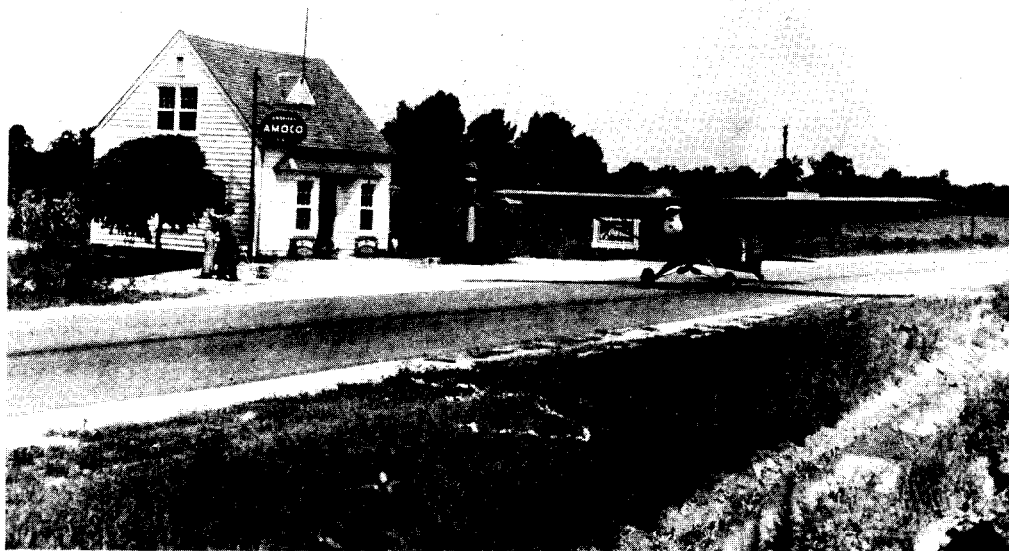


*Piper Cubs used during 1941 maneuvers.*

Division Artillery of the Third Army—received twelve TO-59 Piper Cubs with each aircraft assigned a pilot and a specially trained mechanic. During the tests, which lasted all winter, the artillerymen trained enthusiastically under their civilian instructors. On 1 May 1942, Maj. Gen. Mark W. Clark, General McNair's Chief of Staff, received a favorable test report and promptly added his recommendation for approval.

The Secretary of War approved organic aviation for the field artillery on 6 June 1942. This action authorized 2 aircraft per light and medium artillery battalion, 2 per heavy artillery battalion normally assigned to brigade, 2 per field artillery group, and 2 for the headquarters and headquarters battery of each field artillery brigade and division artillery. Thus, Army aviation became a reality in the early days of World War II.<sup>8</sup>

Light aircraft were utilized for almost every conceivable mission during World War II. Every major command unit, except the Antiaircraft Command, established a requirement for organic assignment of aircraft. The period, 1942-1947, was characterized by the absence of any clear-cut basic understanding among the agencies concerned regarding the organic assignment of aircraft outside of the Army Air Force. Continuous difficulties over organization and control of these



*An L-4 Grasshopper Observation plane of the 11th Observation Squadron taxis on a road during the Carolina Maneuvers in August 1942.*

aircraft, referred to as liaison aircraft during this period, were further complicated by the questions of what type aircraft were to be used for the observation mission.

The nearest approach to any degree of accord on the light aviation issue during the war was contained in a set of principles recommended by the Army Air Force, generally accepted by Army Ground Forces, and given due consideration by the War Department in handling decisions on Army aviation. The salient features of these principles were: maximum sustained utilization of aircraft assigned organically to the Army Ground Forces; minimum detachment of individual aircraft from the main body; minimum duplication of Army Air Force units and equipment with a compensating increase in the ability to wage war; and, last, it was generally agreed that separate airdromes, depot maintenance facilities, and training facilities would not be required.

## **World War II Training**

Early in World War II, responsibilities for the equipment, maintenance, and training associated with organic aviation were divided between the Army Ground Forces, which supervised tactical training of pilots and mechanics, and the Army Air Forces, which handled basic flight training of student pilots and their rating.



*An L-20 (foreground) and two L-19 aircraft (background) in flight near Fort Monmouth, New Jersey.*

On 14 January 1942, fourteen officers and twenty enlisted men of the Field Artillery, who were holders of civilian pilot licenses, reported to the Field Artillery School, Fort Sill, and were organized as the Air Training Detachment under the command of Lt. Col. W. W. Ford. Between 14 January and 28 February, these individuals received basic instruction in short field flying techniques and maintenance of liaison airplanes from seven civilian flying instructors and three civilian maintenance instructors. Thirteen officers and eight enlisted men successfully completed the course. When the War Department approved the adoption of organic air observation

for the field artillery, it directed that the Field Artillery School conduct training of pilots and mechanics to be procured from the Ground Forces. Trainees had to have prior flight and mechanical experience. In the organization of the Department of Air Training, highly skilled flight instructors and maintenance instructors were hired from civilian life to give pilots intensive training.

Courses necessary for tactical training were organized in the Department of Air Training, set up in the Field Artillery School at Fort Sill, Oklahoma. The first eighteen pilots graduated on 18 September 1942. Controversy developed between the Ground Forces and the Air Forces over the recruiting of pilots and their qualification. The original plan provided that field artillery pilots might be noncommissioned officers with the rating of staff sergeants, as were all Army Air Force liaison pilots, but the majority of those recruited from the Army Ground Forces were commissioned officers. Beginning in September 1942, the Army Air Forces was to send 100 qualified liaison pilots a month to Fort Sill. This plan failed because the Army Ground Forces had difficulty finding qualified volunteers, while the Army Air Forces challenged the qualification of those admitted to the courses at the Field Artillery School. Those student pilots supplied by the Army Air Forces often failed to measure up to flying requirements of the Field Artillery School. There was constant disagreement whether or not the pilots should be observers trained to adjust artillery fire. The Air Forces contended that adjustment of artillery fire from a multi-seated aircraft could best be performed by an observer rather than by the pilot.

In September 1942, the commandant of the Field Artillery School made a concerted effort to assign responsibility for the procurement and rating of field artillery pilots to the Army Ground Forces. By November 1942, it was agreed that the Army Ground Forces should begin sending twenty-five ground officers per week to the Army Air Forces for training. These officers eventually would be included in the quota of forty which the Air Forces would send to Fort Sill every week.<sup>9</sup>

The first class under the Department of Air Training began on 3 August 1942 and was composed of officers up to captain, and enlisted volunteers who held or recently held Civil Aeronautics Agency private pilot licenses, had logged sixty hours pilot time, and weighed 170 pounds or less. The first basically trained pilots arrived at the Field Artillery School on 19 September. Twenty-five field artillery officers began Primary Flight Instruction at Denton, Texas, on 3 December, with the same number reporting each week thereafter for seven weeks of training as liaison pilots before reporting to Fort Sill for the 5-week advanced course. The duration of the primary flight course was changed to five weeks in February 1943.

Early in 1943, the War Department began to straighten out the difficulties over personnel and training that had arisen between the Army Ground Forces and the Army Air Forces and approved certain changes in the organic aviation program as requested by the Army Ground Forces. The most important change was that pilots were to be officers, trained to adjust fire. The pilot would be accompanied by a radioman-mechanic who was to watch for hostile planes and transmit fire directions to the ground. The new system assured Army Ground Forces control of and responsibility for the supply of pilots. Under the new arrangement, the Army Air Forces trained AGF



volunteers as liaison pilots at the Army Air Forces flying schools at Denton and Pittsburg, Kansas, in a manner acknowledged by Army Ground Forces to be very satisfactory. The Field Artillery School no longer had to prolong its courses by giving its student pilots basic military training.

Late in February 1943, Army Ground Forces expressed its desire to include organic liaison aviation in tank destroyer units and mechanized cavalry units. It also wanted to provide divisions with airplanes, in addition to those with the artillery, for the use of the division commander and his staff and for work with division reconnaissance elements. About half of the planes and men requested were to be assigned organically to divisions and the remainder to tank destroyer and mechanized cavalry forces. The War Department estimated in March, that in order to implement the proposed extension of organic aviation in ground force units, approximately 1,500 liaison planes would be required in addition to the 2,500 necessary for the existing field artillery program. The War Department turned down the AGF proposal on 28 June, thereby stabilizing the organic ground force aviation program until almost the end of World War II.

During the period, 16 March - 19 April 1943, the Army Air Forces supplied the Artillery School with forty liaison pilots weekly. First priority on the weekly input of trainees went to all Field Artillery officers supplied by Army Ground Forces who had successfully completed the flight training course and had been rated liaison pilots. Second priority was given to enlisted graduates of the civilian pilot training-liaison pilot training course. These men were to have completed basic military training and were to be rated liaison pilots prior to their transfer to Fort Sill. Third priority was reserved for well qualified enlisted volunteers who had completed basic military training and who were rated liaison pilots.

On 20 April 1943, the War Department decided it would be better for enlisted men to attend officer candidate school before going to flight school. This decision was made because the enlisted men who were capable of doing an acceptable job as liaison aviators usually were officer candidate school material and left troop units for OCS shortly after reporting for duty.

The duration of the course at the Field Artillery School increased from seven weeks in February 1943 to fourteen in June 1945. Stress was placed on cross country flying and the lessons learned in the combat zones. Training was suspended from the fall of 1944 to January 1945 because a sufficient number of pilots had been trained to meet Army requirements. Contracts with civilian flying schools were cancelled and Army Air Force primary flight training at Pittsburg was discontinued.

Seaplane training for pilots and mechanics was begun in April 1944. Training in the use of the Brodie device was ordered by Army Ground Forces in October 1944. The Brodie device was a cable launching and landing apparatus which enabled aircraft to get in and out of confined or unimproved areas and to operate from Naval landing craft.

Following the resumption of training in January 1945, pilot losses in combat necessitated an increased input of from thirty to forty students every two weeks and a reduction of basic training to eleven or twelve weeks. Tactical instruction was cut to five weeks, and liaison pilots were

rushed overseas until the situation eased. Beginning with Class Number 101, enrolled on 18 June 1945, the department reduced the student input from forty to thirty per class.<sup>10</sup>

By the end of World War II, 2,630 pilots and 2,252 mechanics had been trained. The cessation of hostilities interrupted the procurement and training programs and subsequently reduced the aircraft inventory from 1,600 to approximately 200 aircraft by late 1945.

## **The Separation of the Army and the Air Force**

The National Security Act of 1947 established the United States Air Force as an independent service. Army Regulation 95-5 set forth the missions of Army aviation under the new arrangement in the following terms: expediting and facilitating the conduct of operations on land; improving mobility, command, control, and logistic support of Army forces; and facilitating greater battlefield dispersion and maneuverability under conditions of atomic warfare. At the same time, the provisions prevented infringement upon those areas of responsibility delegated to the Air Force by the Key West Agreement of 21 April 1948.

## **Joint Regulations**

The Army and the Air Force, acting jointly, issued a number of so-called adjustment regulations, one of which amounted to a basic agreement on the question of Army organic aviation. On 29 May 1949, Joint Army and Air Force Adjustment Regulation 5-10-1, *Combat Joint Operations, Etc.: Employment of Aircraft for Performance of Certain Missions*, was issued. This regulation provided for two types of Army aircraft—fixed wing, not exceeding 2,500 pounds in weight; and rotary wing, weighing no more than 3,500 to 4,000 pounds. Organic aircraft could be utilized by the Army for the purpose of expediting and improving ground combat procedures in forward areas of the battlefield. Specific functions were very similar to those of light Army liaison airplanes during World War II. They included: (1) maintenance of aerial surveillance of enemy forward areas in order to locate targets, adjust fire, and obtain information on hostile defense forces; (2) aerial route reconnaissance; (3) control of march columns; (4) camouflage inspections of ground forces areas and installations; (5) local courier and messenger service; (6) emergency aerial evacuation; (7) emergency aerial wire laying; (8) limited aerial resupply; and (9) limited front line aerial photography. The agreement specified that the Air Force would provide liaison aircraft units to perform for the Army courier service, messenger service, aerial evacuation, aerial photography, aerial supply, and aerial wire laying.

Soon after publication of JAAFAR 5-10-1, the Ordnance Corps was assigned the major responsibilities for the logistical support of Army aircraft. The Army actively entered the aircraft supply field the following March when, in conjunction with the Air Force, it prescribed certain policies and procedures to be followed in "matters related to the development, procurement, supply, and maintenance of Army aircraft and allied aircraft equipment." On 23 March 1950, these took the form of identical documents, Army Regulation 700-50 and Air Force Regulation 65-7, *Supplies and Equipment: Army Aircraft and Allied Equipment*.<sup>11</sup>

## **Training Agreements**

In late February 1947, General Jacob L. Devers, the Commanding General, Army Ground Forces, and Lt. Gen. J. K. Cannon, the Commanding General, Air Training Command, reached an agreement on the training of Army Ground Forces pilots. The Army Air Forces would conduct technical flight training to produce liaison pilots capable of operating AGF aircraft during daylight, darkness, and under marginal weather conditions from landing strips and roads normally used by AGF units. Also, the Air Forces would rate Army Ground Forces student pilots as liaison pilots upon successful completion of the Army Air Forces Liaison Pilot Course.

The Army Ground Forces agreed to conduct operational and tactical flight training; conduct instruction in the performance of first and second echelon maintenance of its aircraft; and conduct instruction in adjustment of fire, aerial reconnaissance, aerial photography, amphibious, airborne, and mountain operations, and any additional areas which might be required for Army Ground Forces pilots to accomplish their missions. All training was to be conducted at Fort Sill. Also, the AGF would evaluate the products of the Army Air Forces Liaison Pilot School through certain operational and tactical flight evaluation tests conducted by the Artillery School. The results of those tests, along with comments and constructive recommendations, were to be sent to the Army Ground Forces for transmittal to Air Training Command headquarters.

## **Flight Training**

While the Army and the Air Force attempted to work out a division of their responsibilities, important changes had been taking place in Army organic aviation. On 7 December 1945, the Department of Air Training at the Field Artillery School had been redesignated the Army Ground Forces Air Training School, a change which resulted from an agreement to extend organic aviation to cavalry, infantry, engineer, armor, and tank destroyer units. An agreement between General Devers and General Ira C. Eaker, the Commanding General, Army Air Forces, also called for additional light aircraft for the AGF.

Training provided for the Army by the Air Force was conducted at several installations during the post-war period. Primary fixed wing training, which had been conducted at Sheppard Air Force Base, was transferred to Gary Air Force Base at San Marcos, Texas, in May 1946. Gary Air Force Base was closed in 1949 and all Army training was transferred to Connally Air Force Base, Waco, Texas. With the expansion of Army aviation after the outbreak of war in Korea, Gary Air Force Base was reopened and all primary flight training was transferred there, as was the training of mechanics which had been conducted at Sheppard Air Force Base.

The Air Training School at Fort Sill began operation early in 1946, but by June the demobilization of the Armed Forces brought about a severe shortage of personnel. As a result, the Air Training School had to eliminate seaplane training and had to reduce sharply the time devoted to the Brodie device. In November, the Department of Air Training again was established, and the Army Ground Forces Air Training School was discontinued. The department offered training support for all of the ground arms, rather than just for artillery as it had

prior to 7 December 1945. During the period from 1946 to 1949, 486 officers graduated from the Army Ground Forces Pilot Course, while 461 enlisted men graduated from the Air Mechanic Course.

As a result of the February 1947 agreements, the program of instruction of the Army Air Forces Liaison Pilot Course was lengthened from four to five and one-half months. The maximum capacity of the Artillery School under the new program of instruction would be sixty students per class. The Army Ground Forces, anticipating a 40 percent attrition rate during the Army Air Forces Liaison Pilot Course, recommended that the maximum capacity of each class be established initially at 100 for reporting and 60 for graduation. Based upon pilot replacement requirements and experience gained in conducting the revised pilot courses, AGF also recommended changes in class capacities one month prior to the starting date of each class. It anticipated that classes would not be filled to maximum capacity because of shortages of company grade officers in the ground arms.

The Army Ground Forces Pilot Course conducted by the Artillery School was to be reduced from four to three months in order to maintain a continuous student load at the Artillery School of four 3-month classes per year. The Army Ground Forces proposed that the Artillery School attach an AGF combat-experienced pilot of field grade to the Army Air Forces Liaison Pilot School to serve as the AGF liaison officer to provide timely assistance and advice for the instructors.<sup>12</sup>

By far the most significant development of this period was the introduction of the helicopter into Army aviation. Early in 1945, the Army began investigating the feasibility of adapting rotary wing aircraft to the Army aviation mission. In 1946, the Army obtained its first helicopters—thirteen Bell YR-13s. In February 1947, the Bell Helicopter Corporation began the first formal Army helicopter pilot training course under contract at its factory facilities. Primary rotary wing training began at San Marcos on 1 September 1947 under Air Force direction.<sup>13</sup>

Army personnel qualified as helicopter pilots after twenty-five hours of flight instruction. Feeling that twenty-five hours were inadequate and that its pilots needed training in advanced techniques in helicopter flight, the Army established an advanced tactical training course at Fort Sill on 1 November 1948. Men who had taken their helicopter flight training from either the Air Force or Bell were the first instructors for the tactical helicopter training course.

During 1949 and early 1950, the training of helicopter pilots by both the Army and the Air Force had low quotas, none of which exceeded ten students per class. In August 1949, the Air Force Helicopter School program for Army Field Forces officers was extended from four to five weeks in duration, with a class capacity of six. Flight training increased from 25 to 30 hours and academic training increased from 40 to 51 hours. Officers selected to attend the course were Regular Army or selected reservists rated as liaison pilots, currently on flight status. Beginning in January 1950, all students, upon successful completion of the Air Force Pilot Helicopter Course, were required to enter the Army Field Forces Helicopter Pilot Course at the Artillery School. In December 1949, the Commanding General of the Artillery Center had recommended that the Army Field Forces Helicopter Course be extended from four to five weeks in order to

provide increased instruction in maintenance, technical inspections, and practical field exercises. The Office of the Chief of Army Field Forces<sup>14</sup> approved this plan in late December and received Department of the Army approval in January 1950. Army Field Forces also authorized attendance at the Army Field Forces Helicopter Pilot Course for those officers who were trained as field artillery pilots during World War II in order to familiarize them with new tactical doctrine applicable to combat arms other than field artillery, new types of liaison airplanes, helicopters, communications equipment, and new conduct of fire procedures.

In view of the possible consolidation of helicopter training, the Artillery School in March 1950 pointed out that the existing facilities at Connally Air Force Base, where the first phase of training was then being conducted, were inadequate because of air congestion. If the course were to be consolidated at Fort Sill, eight weeks would be required to train a helicopter pilot, as duplication of time in performing basic maneuvers and allowing instructor pilots to become familiar with the students would be eliminated. Also, a considerable savings in funds and a subsequent increase in output would result from consolidation. Any real progress in consolidation was nevertheless stymied by the impact of the Korean conflict.<sup>15</sup>

## Endnotes

### Chapter I

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3. Ibid., pp. 24-25.

4. (1) Ibid., pp. 26-29. (2) Goldberg, *A History of the U.S. Air Force*, p. 23. (3) Capt. Irving B. Holley, Jr., *Evolution of the Liaison Type Airplane, 1917-1944* (Maxwell AFB: Army Air Force Historical Office, 1946), pp. 1-2. (4) Irving B. Holley, Jr., *Ideas and Weapons* (New Haven: Yale University Press, 1953), pp. 49, 172.

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6. (1) Col. H. Frank Gregory, *Anything a Horse Can Do, The Story of the Helicopter* (New York: Reynal and Hitchcock, 1941), pp. 7-89. (2) Holley, *Liaison Type Airplanes*, p. 47. (3) Futrell, *Command of Observation Aviation*, p. 16. (4) Army Air Forces, Vol. I, *The AAF Helicopter Program* (Wright Field: October 1946), pp. 11-22.

7. (1) Kent Roberts Greenfield, *Army Ground Forces and the Air-Ground Battle Team Including Organic Light Aviation*, AGF Study No. 35, 1948, p. 23. (2) Harrison, *History of Army Aviation* (Draft), pp. 40-43.

8. (1) Harrison, *History of Army Aviation* (Draft), pp. 44-45. (2) AGF Study No. 35, pp. 23-24. (3) Memo for CG AGF, WDGCT 320.2 (2-5-42), 6 Jun 42, subj: Organic Air Observation for Field Artillery.

9. AGF Study No. 35, pp. 24-28.

10. (1) History of the U.S. Army Artillery and Missile School, Vol. II, pp. 169-176. (2) Tierney and Montgomery, *The Army Aviation Story*, pp. 65-76.

11. R. Earl McClendon, *Army Aviation, 1947-1953*, Documentary Research Division, Research Studies Institute, Air University, Maxwell AFB, pp. 6-7.

12. Memo, CG AGF to CG Air Training Command, Barksdale Field, LA, 9 Apr 47, subj: Training and Rating of Army Ground Forces Pilots.

13. (1) Tierney and Montgomery, *The Army Aviation Story*, pp. 29-80, 93-96. (2) History of the U.S. Army Artillery and Missile School, Vol. III, pp. 10-18, 223-227, 349.

14. Headquarters, Army Ground Forces, was reorganized and redesignated as the Office of the Chief of Army Field Forces on 10 March 1948.

15. (1) Tierney and Montgomery, *The Army Aviation Story*, pp. 94-96. (2) History of the U.S. Army Artillery and Missile School, Vol. III, pp. 235-239. (3) Ltr ATTNG-12 360/83 (31 Aug 49), OCAFF to distr, 31 Aug 49, subj: H-13 Helicopter Pilots Course. (4) Ltr ARPSIAT 352.11, CG Artillery Center to OCAFF, 6 Dec 49, subj: Army Field Forces Helicopter Pilot Course, with 1st Ind CGSOT 352 (6 Dec 49), O&T Div to OCAFF, 10 Jan 50. (5) Ltr AKPSIAT 452.1, Comdt Artillery School to OCAFF, 14 Mar 50, subj: Army Helicopter Pilot Training.